Memo

Quality Control

Work Ord February-01-12				*796	365*							Page
Item ID: Revision ID:	D206-667-2	47TRN		Accept	*N900	040	100	ገ*	Setup	Start	*N	S1*
Item Name:	Crosstube Ass	sembly, Mid Aft								Stop	*N	S 2*
Start Date: Required Date	31/01/2012 : 20/03/2012	Start Qty: 1.00 Req'd Qty: 1.00	*1* *1*		Cust Item Customer:	ID:					1.4	. 17
Approvals:	Process Pla	an: M.L.J	Date: 12/02/0	_/ Tooling:	Da	ate:			Run	Start	*N	R1*
	QC:		Date:	SPC (Y/N):	Da	ate:				Stop	*N	R2*
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	t Rej Qty		Reject Number	Insp. Stamp
Draw Nbr	Rev	ision Nbr				-						
D206-667-247	7 A											
100 *100* Mori Seiki		MORI SEIKI CNC LATI	HE LARGE	0.00					Q	8		
Mori Seiki CNC La	the Large	2-Turn first			er Folio FB030		an	M.	(· /2	1031	12
110	•	QC1- Inspect dimensions	to dimension sheet	0.00								
*11 0 *		Memo		0.00						<u></u>	**	

annil 12/03/12

W/O:			W	ORK ORDER CHANG	ES				*
DATE	STEP	PRO	CEDURE CH	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	• .	PAR #:	Fault Cat	egory:	NCR: Yes	s No DG	A:	Date: _	<u></u>
	R	esolution:	Dispositi	on:	QA: N/C	Closed:		Date: _	. 2.40.11
NCR:		1	WORK ORE	DER NON-CONFORM	ANCE (NC	R)			
DATE	STEP	Description of NC	Description of NC Correc				ication	Approval	Approval
DATE	SIEF	Section A	Initial Chief Eng	Action Description Chief Eng	Sigr Dat		tion C	Chief Eng	QC Inspector
							-		
	Ì								

140

QC8- Inspect parts - second check

0.00

140

Memo

0.00

QC

Quality Control

W/O:		WORK ORDER CHANGES											
DATE	STEP	PRO	OCEDURE CHAN	IGE	Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector					
				·				· · ·					
								,					
			r.										
Part No:		PAR #:	Fault Categ	jory:	NCR: Yes	No DQA:	Date: _						
	R	esolution:	Disposition):	_ QA: N/C Clo	osed:	Date: _						
NCR:			WORK ORDE	R NON-CONFORM	ANCE (NCR	3)		×					
DATE	STEP	Description of NC			tion B	Verification		Approval					
DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector					
·		A V											
		3											
				- 100 mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/mg/m			·						
						ı							
	4			All and a second									

Work Order ID 79665 *79665* Page 3 February-01-12 11:27:27 AM Item ID: D206-667-247TRN Accept *N900040100* Setup Start **Revision ID:** Stop Item Name: Crosstube Assembly, Mid Aft **Start Date:** 31/01/2012 Start Qty: 1.00 Cust Item ID: **Required Date:** 20/03/2012 **Req'd Qty:** 1.00 **Customer:** Reference: Run Start Process Plan: Date: **Approvals: Tooling:** Date: ____ Stop **Date:** _____ QC: SPC (Y/N): Date: Sequence ID/ Operation Tool ID Tool # Plan Set Up/ Reject Accept Reject Insp. **Work Center ID** Description Qty Qty **Run Hours** Code Number Stamp 150 Crosstubes Chemical Conversion 0.00 GRIND MACHENE MARKS *150* HandFXtube 0.00 Memo Hand Finishing Crosstubes 160 QC3- Inspect Part Finish 2-3-13 0.00 *160* QC 0.00 Memo Quality Control 170 0.00 Packaging *170* Packaging 0.00 Comme 12/03/13 Memo Packaging Identify and stock in kanban rack Location:

W/O:			WO	RK ORDER CHANG	ES				
DATE	STEP	PRO	OCEDURE CHAN	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
								Prod Wigi	
Part No		PAR #:	Fault Categ	jory:	_ NCR: Yes	No DQ	A:	Date:	
	Res	solution:	Disposition	1: <u> </u>	QA: N/C Cld	sed:		Date:	
NCR:			WORK ORDE	R NON-CONFORM	ANCE (NCR)			
		Description of NC	Corrective Action Sect Action Description	ion B	Verifi	cation	Approval	Approval	
DATE	STEP	Section A	Initial Chief Eng	Sign & Date		ion C	Chief Eng	QC Inspector	

Work Ord February-01-12				*796	365*							Page 4
Item ID: Revision ID: Item Name: Start Date:	D206-667-2 Crosstube As: 31/01/2012	47TRN sembly, Mid Aft Start Qty: 1.00	*1*	Accept	*N900		100	ገ*	Setup	Start Stop	ı	S1* S2*
Required Date Reference:		Req'd Qty: 1.00	*1*		Cust Item 3 Customer:	D:						
Approvals:	Process Pla	an:	Date:	Tooling:	D	ate:	_		Run	Start	*N	R1*
	QC:		Date:	SPC (Y/N):	D	ate:		•		Stop	*N	R2*
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept	t Rej Qty		Reject Number	Insp. Stamp
180		QC21- Final Inspection	- Work Order Release	0.00						١	,)	h-
180 QC Quality Control		Memo		0.00		-	į		· · · <u></u> -	12/	3/13	3 4

R120313

					,				
W/O:			WO	RK ORDER CHAN	GES				
DATE	STEP	PRO	PROCEDURE CHANGE					Approval Chief Eng / Prod Mgr	Approval QC Inspector
								1 Too Migi	
				·					
Part No	•	PAR #:	Fault Categ	jory:	NCR: Yes	s No DO	QA:	Date: _	
Resolution:			Disposition	1:	QA: N/C	Closed: _		Date: _	
NCR:			WORK ORDE	R NON-CONFORM	MANCE (NO	R)			
DATE	OTED	Description of NC		ection B	Veri	ication	Approval	Approval	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	n Sign Dat	& Sec	ction C	Chief Eng	QC Inspector
						 - -			•

Picklist Print

February-01-12 11:27:31 AM

Work Order ID: 79665

79665

Parent Item:

D206-667-247TRN

D206-667-247TRN

Parent Item Name: Crosstube Assembly, Mid Aft

Start Date: 31/01/2012

Required Date: 20/03/2012

Page 1

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP rev:A 11.01.06 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6004-115		Manufactured	No			100	Each	9.0000	1	1			
*D0004 44	~ *								44				

D6004-115

Crosstube Material

Location	Loc Qty	Loc Code	•	
LG	9			
— 34685	5			12/03/09
38336	4			•

W/O:		WORK ORDER CHANGES											
DATE	STEP	PRO	CEDURE CH	IANGE	В	/	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
							<i>7</i>						
			,										
										* .			
Part No	:	PAR #:	Fault Ca	tegory:	NCR: \	es N	lo DQ	A:	_ Date: _				
	Re	esolution:	Disposit	ion:	QA: N/	C Clo	sed:		Date: _				
NCR:			WORK OR	DER NON-CONFORM	MANCE (N	ICR)							
DATE	STEP	Description of NC	Corrective Action Section				Verific		Approval	Approval			
	SIEF	Section A	Initial Chief Eng	Action Description Chief Eng		gn & Date	Secti	on C	Chief Eng	QC Inspector			
			•										
						,							
		;											
			,										

DART AEROSPACE LTD	Work Order:	79665
Description: Crosstube Assembly, Mid Aft	Part Number:	D206-667-247TRN
Inspection Dwg: D206-667-247 Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

	spection Sheet wing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
	2.490	+0.005/-0.000	2495	/		mirc	CNC-OU
	2.025	+0.005/-0.000	2.028		-	1	
	2.079	+0.005/-0.000	2.083	7			
	2.145	+0.005/-0.000	2.150				
	2.209	+0.005/-0.000	2.214				
	2.287	+0.005/-0.000	2.290	7			
4	2.363	+0.005/-0.000	2-363			\ \	
SIDE							
ଊ	0.200	+/-0.010	200	سن		vern	(W.C-06)
	R0.063	+/-0.010	.663			86	1 W L-08
	R2.00	+/-0.010	2.00			11	
	R0.063	+/-0.010	.067	/.		(1	
	4.500	+/-0.010	4.500			vern	CWC-08
	2.490	+0.005/-0.000	4.494			very	CNC-08
	2.025	+0.005/-0.000	1.027				
	2.079	+0.005/-0.000	2.089		· · · · · · · · · · · · · · · · · · ·		
	2.145	+0.005/-0.000	2-149				
	2.209	+0.005/-0.000	2.212				
	2.287	+0.005/-0.000	7.788	<i>-</i>			
80	2.363	+0.005/-0.000	2,364			y	
SIDE							
S	0.200	+/-0.010	200			vern -	CWC-06
ļ	R0.063	+/-0.010	-063			RG	
- [R2.00	+/-0.010	7.00			(,	
	R0.063	+/-0.010	:663			11	
-	4.500	+/-0.010	4.400	_/		vern	cwc-os
-							
	99.76	+/-0.020	99.76			tape	gran 1-0.
Mea	sured by:	n.C Au	idited by:	A)	Pr	eliminary App	
	Date: 12	63/12	Date:	2-3-	12		Date:
Rev						Revis	ed by Approve
A		ige Issue			·	Revis	ed by Appro

Meas	ured by:	mm.C	Audited by:	10		Preliminary		
	Date:	12/03/12	Date:	12-	3-1-2		Date:	
Rev	Date	Change				R	evised by	Approved
<u>B</u>	11.06.21	New Issue				K		Chil
								77.

W/O:			W	ORK ORDER CHANG	ES					
DATE	STEP	PRO	OCEDURE CHA	NGE		Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
·					_				Prod lyigr	
· · · · · · · · · · · ·										
									<u></u>	
Part No	•	PAR #:	Fault Cate	gory:	NCR	: Yes N	lo DQ .	A :	Date:	
	Res	solution:	Disposition	on:	_ QA:	N/C Clo	sed:		Date: _	
NCR:			WORK ORD	ER NON-CONFORMA	ANCE	(NCR)				
	T	Description of NC			ion B		Verific	cation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng		Sign & Date		on C	Chief Eng	QC Inspector
							-			
							!			

Item	Qty -247	Part Number	Description
1	Х	D206-667-247	CROSSTUBE ASSEMBLY (206L MID AFT)
2	1	D6004-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2892-1	SUPPORT
6	4	D3595-063-450	RUBBER CUSHION
7	4 .	MS21920-22	CLAMP
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299- 947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6004-115 FINISHED LENGTH = 99.76±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2 PAINT OUTSIDE PER DART QSI 005 4.2
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- UNITS: INCHES UNLESS OTHERWISE NOTED.
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-247" AND BATCH NUMBER ON INSIDE OF CUFF PER DART QSI 044 6.4 (VIBRATING STYLUS).
- WEIGHT: 21.1 lbs (-607 = 17.7 lbs)
- PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-22 CLAMPS WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2892-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

 $^{SHOb}\,c_{Ob,t}$ $RLL_{K\times TO}$ ENCLARISH UNCONTROLL SUBJECT TO AMILY !! WITHOUT NO

DEO ATTACHED

600 # (1-615 11.07.28

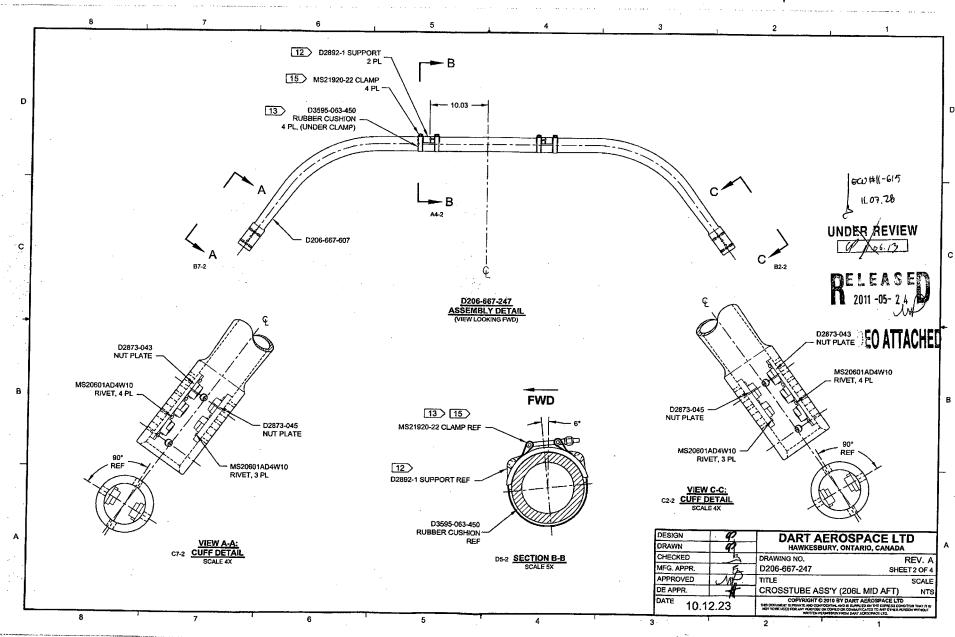
UNDER/REVIEW

A	NEW I	SSUE		CP	10,12.23
REV.			DESCRIPTION	BY	DATE
DESIGN		9	DART AERO	DSPACE	TD
DRAWN		92	HAWKESBURY,		
CHECK	D		DRAWING NO.	i	REV. A
MFG. AF	PR.	0	D206-667-247		SHEET 1 OF 4
APPRO	/ED	inner	TITLE		SCALE
DE APP	R.	_#_	CROSSTUBE ASSY	206L MID AF	T) NTS
DATE	10.1	2.23	COPYRIGHT © 2018 81 THIS SOCUMENT IS PRIVATE MYS CONSTRUME, AND HOST SOCIAL AN	D IS SUPPLIED ON THE FIRMES	CONDITION THAT IT IS

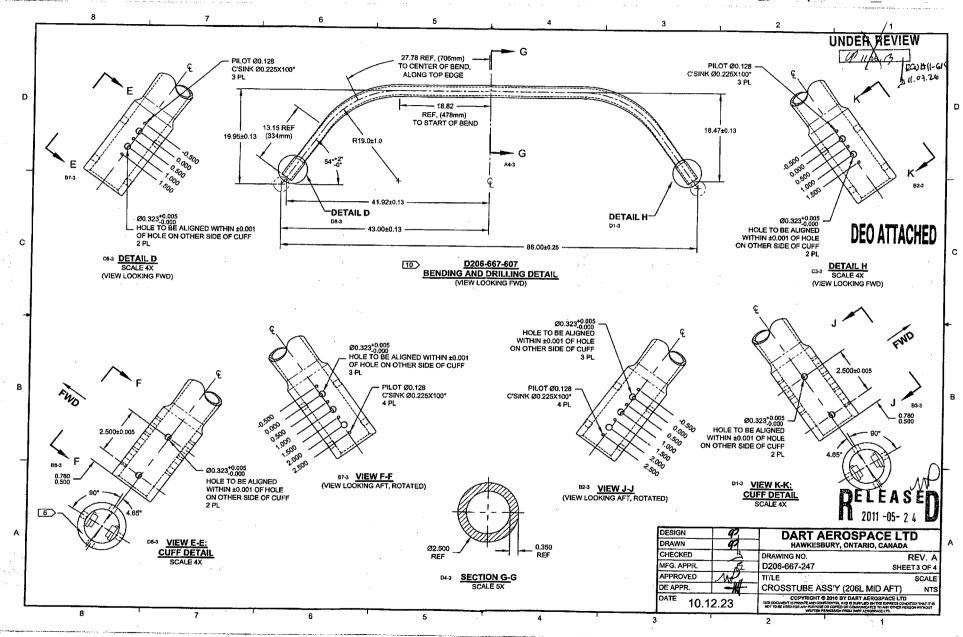
D

В

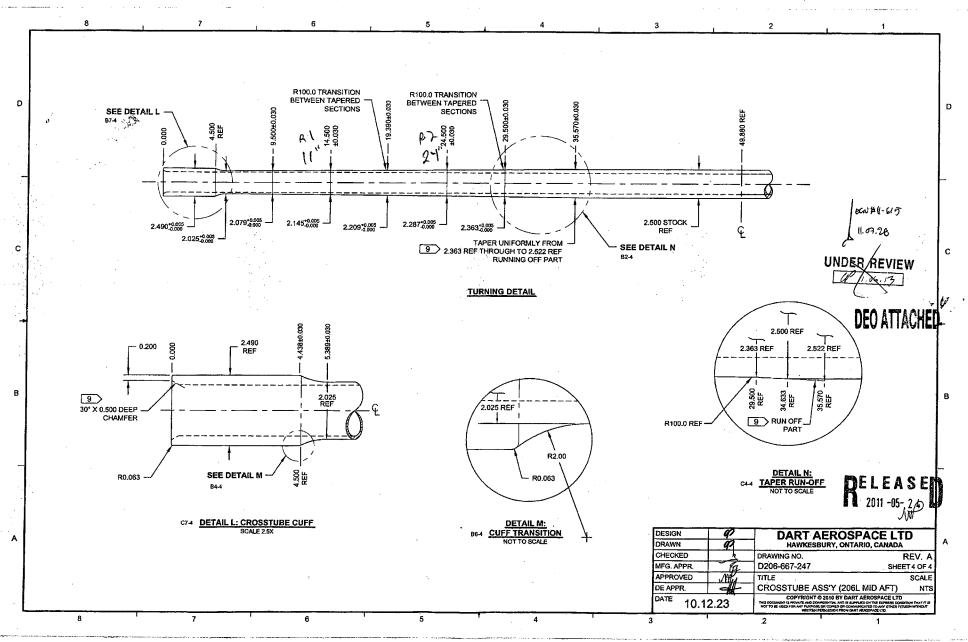
W/O:			WO	RK ORDER CHANG	ES				,
DATE	STEP	PRO	OCEDURE CHAN	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
								Prod Mgr	
Part No	•	PAR #:	Fault Categ	ory:	_ NCR: Yes	No DQ	A:	Date: _	
	Res	olution:	Disposition	:	_ QA: N/C Cld	sed:		Date: _	
NCR:				R NON-CONFORMA					
		Description of NC		Corrective Action Section		Verifi	cation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date		tion C	Chief Eng	QC Inspector
							<u> </u>		



	-								
W/O:			WO	RK ORDER CHAN	GES				•
DATE	STEP	PRO	OCEDURE CHAN	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
								1 100 mg	
Dowl No.		DAD #.	Foult Cotoo		NCD: Voc	No DO	۸.	Data	
Part No		PAR #: esolution:							
NOD				R NON-CONFORM					
NCR:	<u>, </u>							<u> </u>	<u> </u>
DATE	STEP	Description of NC Section A	Initial	Action Description	sction B Sign	K Sect	cation ion C	Approval Chief Eng	Approval QC Inspector
			Chief Eng	Chief Eng	Date				
							, -		



W/O:			V	ORK ORDER CHANGES	•			•
DATE	STEP	PR	OCEDURE CH	ANGE	Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
							Prod Wigi	
· · · · · · · · · · · · · · · · · · ·								
								1
Part No				tegory:				
ų _V	R			ion: (Date: _	
NCR:			WORK OR	DER NON-CONFORMAN	CE (NCR)		
DATE	STEP	Description of NC		Corrective Action Section B		Verification		Approval
DATE	SIEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
·						!		
								ļ
			·					
•								
				•				
· · · · · · · · · · · · · · · · · · ·		,						
								į



Dart Aerospace Ltd

W/O:			WO	RK ORDER CHANGES					•
DATE	STEP	PRO	OCEDURE CHAN	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
	,			1 20 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2				T Tod High	
						•			
		1							
			,					, , , , , , , , , , , , , , , , , , ,	
Part No	•	PAR #:	Fault Categ	ory: N	CR: Yes	No DQ	A :	Date:	
	R	esolution:	Disposition	:	A: N/C C	osed:		Date: _	
NCR:		,	WORK ORDE	R NON-CONFORMANO	CE (NCF	?)			
		Description of NC		Corrective Action Section B		Verifi	cation	Approval	Approval
DATE	STEP	Section A	initial Chief Eng	Action Description Chief Eng	Sign & Date		ion C	Chief Eng	QC Inspector
			1 1		1				}
	ļ								
_									
									-
									-
									-

79665

DRAWING NO. D206-667-247	TITLE CROSSTUBE ASS'Y (206L			D.E.O. NO. D206-667-247-A-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN 97	CHECKED A	S MFG. APPR	A		DE APPR.	.1413
DATE 11.07	15 DATE 11.0	7.20 DATE	11.07-21 DAT	E 11/07/21	DATE 11.07-21	

PURPOSE:

REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

item	Qty -247	Part Number	Description
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) TO INSTALL D2892-1 SUPPORT: ABRADE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

WAS:

- 12) INSTALL D2892-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.



Dart Aerospace Ltd

W/O:			WC	RK ORDI	ER CHANG	ES					3
DATE	STEP	PROCEDURE CHANGE					,	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
	! 	i									
			•								
Part No		PAR #:	Fault Cate		NCR: Yes No DQA: Date:						
Resolution:			Dispositio	QA: N/C Closed:			_ Date:				
NCR:			WORK ORDI	ER NON-C	CONFORMA	NCE (N	ICR)				
DATE	STEP	Description of NC Section A	Corrective Action			ction B		Verification		Approval	Approval
			Initial Chief Eng		Description Chief Eng		gn & Date	Section C		Chief Eng	QC Inspector
	-			•							
		1.00								e.	
3 ⁵ 2			1		· 1						
), /						,					
1	1					1		1			

ULTRA SONIC MEASURMENTS										
Side	LOCATION on tube	R1	R2	R3	R4					
		1 150	, 2 44							
Α		.152	. 2 55							
		.154	. 249							
		.151	124		07					
			,	-6 159	, 244					
В				1 8 4 6 G	054 Co					
				.150	v 2 4 1					
			•	1148	. 740					
			Part number	206-66	7-247					
			Batch number	79665						
			Measured By	21201						